R·I·T

Title: Ultrasonic Bench

Semiconductor & Microsystems
Fabrication Laboratory **Revision**: **C** **Rev Date: 05/22/2020**

Approved by:

_____ / / _____ / /
Process Engineer Equipment Engineer

1 SCOPE

The purpose of this document is to detail the use of the Ultrasonic Bench. All users are expected to have read and understood this document. It is not a substitute for in-person training on the system and is not sufficient to qualify a user on the system. Failure to follow guidelines in this document may result in loss of privileges.

2 REFERENCE DOCUMENTS

n/a

3 DEFINITIONS

n/a

4 TOOLS AND MATERIALS

4.1 **General Description -** The Ultrasonic bench has an ultrasonic bath and a rinse tank. Various sized tanks may be suspended over the bath with holders. This bench is intended for metal lift off processes and light wafer cleaning.

5 SAFETY PRECAUTIONS

5.1 Hazards to the Operator

5.1.1 **Acetone Use**- Acetone dish must be covered during operation due to flammability.

5.1.2 **Chemistry** - The Ultrasonic Bench uses several hazardous chemicals. Users should be aware of the unique hazards of the materials with which they are working. If a chemical is spilled, remove clothing and rinse affected area in safety shower for 15 minutes and inform SMFL staff member or lab instructor. When working at the Ultrasonic Bench, always use appropriate personal protective equipment (PPE)—apron, face shield and heavy rubber gloves.

5.2 Hazards to the Tool

5.2.1 **Solvent Disposal** - No solvents or lift off agents may go down the drain. These must be filtered, added to solvent waste bottles and labeled.

5.2.2 **No Chemistry in Main Tank** - No chemicals may be used directly in the ultrasonic bath; only water. Chemistry must be placed in a dish.

5.2.3 **Unattended Use** - Never leave the ultrasonics or the heater running unattended. User should remain in bay while running.

5.2.4 **Operation Without Proper Water Level** - Never operate the ultrasonics without proper water level in the tank.

6 INSTRUCTIONS

6.1 Swipe in on then cardswipe. Fill out an equipment in use tag and properly label your chemistry.

6.2 Make sure that the ultrasonic bath is full of water. If it is low fill it so that the level sensor is covered.

6.3 Operating the system

6.3.1 On the lower front panel, turn on the **Main Bench Power**.

6.3.2 If needed, turn on the heater. It is located under the bench. The temperature readout is located on the front of the bench.

6.3.3 After the tank has reached the proper temperature, install one of the holders and place a dish or tank in it to hold the chemicals.

6.3.4 Fill out a chemical in use sign.

6.3.5 The ultrasonics may be started with the switch under the bench. Do not leave the bench unattended when in use. Make sure to cover acetone with foil.

6.3.6 When finished, turn off the heater, ultrasonics and bench power.

6.3.7 Liftoff chemicals must be filtered, added to the solvent waste bottles and labeled. In some cases they may be re-used.

6.3.8 Dishes should be rinsed, dried and put on the cart.

7 APPROPRIATE USES OF THE TOOL

7.1 This bench is intended for metal lift off processes and light wafer cleaning.

7.2 No chemicals may be used directly in the ultrasonic bath. Only water may be used directly in the tank.

REVISION RECORD

Summary of Changes	Originator	Rev/Date
Original Issue	Sean O'Brien	A-04/29/2004
Modified 5.1.6, added 6.3.8	Sean O'Brien	B-08/05/2008
Updated	Meller/O'Brien	C-05/22/2020